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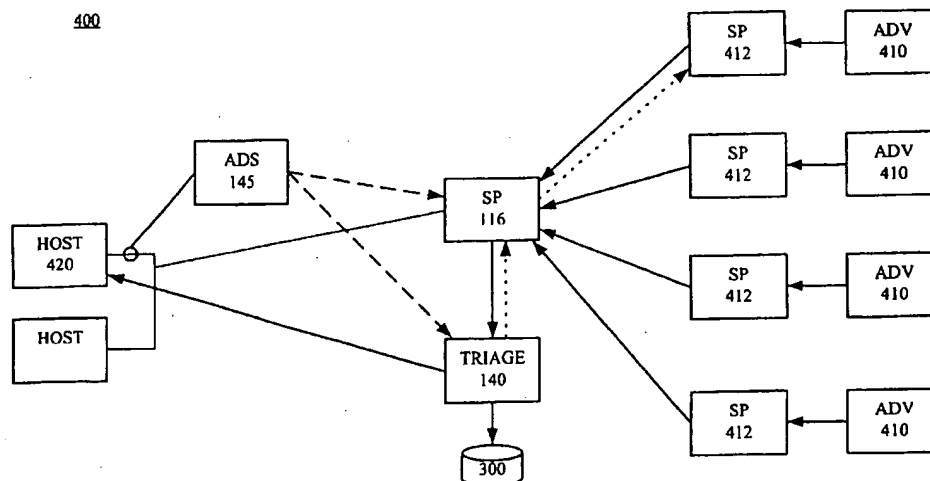
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(54) Title: SYSTEMS AND METHODS THAT PROTECT NETWORKS AND DEVICES AGAINST DENIAL OF SERVICE ATTACKS



(57) Abstract: A system protects communication networks and devices against denial of service (DoS) attacks. A service provider (116) receives a signal indicating that a DoS attack has been detected, receives one or more packets intended for a victim device (420), and transmits the one or more packets to a triage device (140). The triage device determines whether each of the one or more packets is part of the DoS attack and forwards only packets that are deemed unrelated to the DoS attack to the victim device (420).

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US01/29336

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04L 9/00
US CL : 713/200

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 713/200, 153, 154; 709/224, 225, 226

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	VAZHKUDAI, S.; MAGINNIS, T., A High Performance Communication Subsystem for PODOS, Mississippi University, Mississippi. December 1999, pages 81-91, especially pages 81 (8th paragraph) and 84 (2-3rd paragraph), and especially page 86.	1-36
X,P	US 6,298,445 B1 (SHOSTACK, et al.) 02 October 2001, see COL.5, lines 20-51; COL.6, lines 36-55; COL.7, lines 37-65; COL.12, lines 14-55	1-36
A	US 6,301,668 B1 (GLEICHAUF, et al.) 09 October 2001, see COL.5, lines 39-51; COL.6, lines 37-60; COL.8., lines35-57; COL.9, lines 49-54	1-36
A	SMITH, R.; BHATTACHARYA, S., Operating Firewalls Outside the LAN Perimeter, Motorola Inc., Arizona. February 1999, pages 493-498.	1-36
A	US 5,958,053 A (DENKER) 28 September 1999, see COL.6, lines 20-60; FIG.4, COL.7, lines 5-45; COL.9, lines 35-59; COL.15, lines 23-65; COL.16	1-36

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"E" earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US01/29336

Continuation of B. FIELDS SEARCHED Item 3:

EAST TEXT: denial\$ adj servic\$, L1 and packets, L2 and signature\$, L3 and provider\$

NPL PAGE : dos or ((denial of service) and packet)